CONTENTS OF VOLUME XXI.

CXII. JULY, 1905.

The Evolution of Hydrogen from the Cathode and its Absorption by the Anode in Gases. CLARENCE A. SKINNER 1

Application of the Hypothesis of Dissolved Ice to the Freezing of Water and of Dilute Solutions. C. S. HUDSON 16

Color in Platinum Films. ISABELLE STONE 27

The Magnetic Rotation of Sodium Vapor. R. W. WOOD AND H. W. SPRINGSTEEN 41

American Physical Society: Note on Fleeting and Persistent Nuclei in Energized Dust-Free Air: *C. Barus;* Optical Rotation by a Quartz Prism: *H. M. Reese;* Polarization of Standard Cells: *R. R. Ramsey;* On the Measurement of Current by a Quadrant Electrometer: *O. M. Stewart;* Surface Tension by the Method of Liquid Jets: *Floyd R. Watson;* Comparison of the Mutual Inductance of a Pair of Coils with the Self Inductance of One of Them: *Robert T. Herdegen;* The Radius of Molecular Attraction: *C. W. Chamberlain* 52

CXIII. AUGUST, 1905.

Thermo-electric Determination of Temperatures between 0° and 200° C. A. DE FOREST PALMER 65

The Vowel A° (as in Raw), O (as in Rope), U (as in Rude). LOUIS BEVIER, JR. 80

The Measurement of Inductance and Capacity by Means of the Differential Ballistic Galvanometer. WM. J. RAYMOND 90

The Magnetic Effect of Electric Displacement. J. B. WHITEHEAD 111

The Infra-red Spectrum of CO_2 and Nitrogen. E. R. DREW 122

CXIV. SEPTEMBER, 1905.

On Billitzer's Method for Determining Absolute Potential Differences. H. M. GOODMAN AND ROBERT B. SOSMAN 129

On the Distribution of Energy in the Visible Spectrum. EDWARD L. NICHOLS 147

The Range of Adjustment for the Conical Pendulum. FREDERICK SLATE . . 166

The Evolution of Nitrogen from the Cathode and its Absorption by the Anode in Gases. CLARENCE A. SKINNER 169

The Residual Electromotive Force of the Carbon Arc. G. G. BECKNELL . . 181

Some Physical Properties of Current-Bearing Matter. III. Boiling Point. PAUL R. HEYL 189

On the Variation of a Capacity with Temperature. EARLE M. TERRY . . . 193

New Books: *Webster:* Dynamics of Particles and of Rigid, Elastic, and Fluid Bodies; *Strutt:* The Becquerel Rays and the Properties of Radium; *Soddy:* Radioactivity: An Elementary Treatise from the Standpoint of the Disintegration Theory; *Rutherford:* Radioactivity; *Curie:* Untersuchungen über die Radioactiven Substanzen; *Danne:* Das Radium: Seine Darstellung und seine Eigenschaften; *Kayser:* Handbuch der Spectroscopie, Band III.; *Righi:* Modern Theory of Physical Phenomena; *Whetham:* The Recent Development of Physical Science 198

303507

CXV. OCTOBER, 1905.

On the Specific Heat of Gases at High Temperatures. L. HOLBORN AND L. W. AUSTIN 209
The Quadrant Electrometer as Used for Measuring Current. O. M. STEWART 229
The Luminescence of Sidot Blende. E. L. NICHOLS AND ERNEST MERRITT . 247
The Joule-Thompson Effect in Carbon Dioxide. I. Experimental. FREDERICK E. KESTER 261

CXVI. NOVEMBER, 1905.

On the Application of Spectral Bands in Determining Anomalous Dispersion and Achromatic Systems of Various Types. D. B. BRACE 289
The Rate of Recombination of the Ions. L. L. HENDREN 314
Note on the Irreversibility of the Heusler Alloys. BRUCE V. HILL 335
On the Wave-Length of the Radiation given off in an Alternating Condenser Field. FERNANDO SANFORD 343
Total Reflection. ELMER E. HALL 346
New Books: *Poincare:* (Part I.) *Vreeland:* (Part II.); Maxwell's Theory and Wireless Telegraphy 350

CXVII. DECEMBER, 1905.

Ionization of Gases from Colored Flames. PERCIVAL LEWIS 353
Resonance in Wireless Telegraph Circuits, Part III. GEO. W. PIERCE . . . 367
Resistance of Tubes to Collapse. A. P. CARMAN 381
The Distillation of Amalgams and the Purification of Mercury. GEO. A. HULETT AND H. D. MINCHIN 388
Use of a Magnetic Field with the Ryan Kathode Ray Oscillograph. R. RANKIN 399
American Physical Society. Minutes of the Twenty-ninth Meeting. Ionization in Flame Gases: *F. L. Tufts;* Transmission and Reflection of Electric Waves: *F. C. Blake and C. R. Fountain;* Afterglow Produced by the Electrodeless Discharge: *C. C. Trowbridge;* Decay of Phosphorescence: *E. L. Nichols and Ernest Merritt;* Conductivity of the Vapor from a Mercury Arc: *C. D. Child* 407
Index 414